CHAPTER 1
INTRODUCTION

Under Executive Order (EO) 10485 of September 3, 1953, as amended by EO 12038 of February 3, 1978, no one may construct, connect, operate, or maintain facilities at the U.S. international border for the transmission of electric energy between the United States and a foreign country without first obtaining a Presidential Permit from the U.S. Department of Energy (DOE). Tucson Electric Power Company (TEP) has applied for a Presidential Permit to construct, connect, operate, and maintain a double-circuit, 345,000-volt (345-kV) alternating current (AC) electric transmission line across the U.S.-Mexico border. DOE has determined that the issuance of this Presidential Permit to TEP for the proposed project would constitute a major Federal action that may have a significant impact on the environment within the meaning of the *National Environmental Policy Act* of 1969 (NEPA), 42 United States Code (U.S.C.) §§ 4321 et seq. For this reason, DOE has prepared this Draft Environmental Impact Statement (EIS) to evaluate potential environmental impacts from the proposed Federal action (granting a Presidential Permit for the proposed transmission facilities) and reasonable alternatives, including the No Action Alternative.

This EIS was prepared in accordance with Section 102(2)(c) of NEPA, Council on Environmental Quality (CEQ) regulations (40 *Code of Federal Regulations* [CFR] 1500-1508), and DOE NEPA Implementing Procedures (10 CFR 1021). DOE is the lead Federal Agency, as defined by 40 CFR 1501.5. The U.S. Department of Agriculture Forest Service (USFS), the Bureau of Land Management (BLM) of the U.S. Department of the Interior, and the U.S. Section of the International Boundary and Water Commission, U.S. and Mexico (USIBWC) are cooperating agencies. Each of these organizations will use the EIS for its own NEPA purposes, as described in Section 1.2.2, Federal Agencies' Purpose and Need and Authorizing Actions.

1.1 BACKGROUND

On August 17, 2000, TEP, a regulated public utility, filed an application with the DOE Office of Fossil Energy (DOE-FE) for a Presidential Permit. TEP proposes to construct a double-circuit 345-kV AC transmission line on a single set of support structures within an approximate 125-foot (ft) (38-meter [m]) wide right-of-way (ROW). The double-circuit transmission line would consist of twelve transmission line wires, or conductors, and two neutral ground wires that would provide both lightning protection and fiber optic communications, on a single set of support structures. The primary structures to be used are the self-weathering steel single poles, or monopoles, depicted in Figure 1.1–1. Dulled, galvanized steel lattice towers depicted in Figure 1.1–2 would be used in specific locations for engineering reasons or to minimize overall environmental impacts (for example, impacts to soils or potential archaeological sites) in accordance with Arizona Corporation Commission (ACC) Decision No. 64356 (ACC 2002) (as explained in Section 2.2.3).

Figure 1.1–3 shows the overall proposed project location, with the transmission line beginning south of Tucson, Arizona, crossing the U.S.-Mexico border, and continuing into the Sonoran region of northern Mexico to Santa Ana. As shown in Figure 1.1–4, the proposed double-circuit transmission line would originate at TEP's existing South Substation, which would be expanded. The South Substation is located approximately 15 miles (mi) (24 kilometers [km]) south of Tucson in the vicinity of Sahuarita, Arizona, and 1.4 mi (2.2 km) east of Interstate 19 (I-19) in Pima County, Arizona. TEP proposes to use these two circuits to interconnect with the Citizens Communications Company (Citizens) (formerly known as Citizens Utilities) system in the vicinity of Nogales, Arizona, by constructing a new substation, the Gateway Substation, on the west side of Nogales and decreasing the voltage of circuits from 345-kV to 115-kV. From the Gateway Substation, the proposed 345-kV line would continue across the U.S.-Mexico border for approximately 60 mi (96 km) and interconnect with the Comisión Federal de Electricidad (CFE, the national electric utility of Mexico) at CFE's Santa Ana Substation.

The CFE electric system does not operate synchronously with the U.S. system, so during the 1990s TEP studied various possible electrical connection options with CFE, including a direct current line that would remove synchronization problems. However, the cost of such a connection proved that it was not feasible. This led TEP in 1998 to discuss with CFE the potential for an alternating, synchronous current connection with the Mexican system. In 1999 TEP and CFE undertook detailed studies to investigate the feasibility of such a link. Although the TEP and CFE systems do not operate synchronously, the studies undertaken by TEP and CFE contemplate that CFE would separate its Noreste region of its system from the balance of the Mexico electric grid. The U.S. and Mexico systems would be able to operate reliably with this connection at significant cost savings to both TEP and CFE (TEP 2003).

TEP has identified three alternative 0.25-mi (0.40-km) wide study corridors (0.13 mi [0.20 km] on either side of a centerline) as potentially suitable for the proposed project. In this EIS, these alternatives are identified as the Western Corridor, the Central Corridor, and the Eastern Corridor. The utility's Preferred Alternative is the Western Corridor, as previously announced by DOE (66 *Federal Register* [FR] 35950; July 10, 2001). DOE has eliminated the Eastern Corridor, originally proposed by TEP, from further analysis as a reasonable alternative in this EIS at TEP's request, as described in Section 2.1.4. An additional study corridor, the Crossover Corridor, was included for analysis in this EIS based on public and tribal input received during the public scoping period and tribal consultations.

There is an existing El Paso Natural Gas Company (EPNG) buried pipeline within the project area, and segments of each of TEP's three proposed corridors either cross the pipeline ROW, run immediately adjacent to the pipeline ROW, or are roughly parallel to the pipeline ROW within a distance of approximately 0.5 mi (0.8 km). This EIS uses the term "follows or crosses" to describe the relationship between each corridor and the EPNG pipeline ROW.

NEPA requires the identification of the agency's preferred alternative or alternatives in a Draft EIS if one or more exists, or, if one does not yet exist at the draft stage, in the Final EIS (40 CFR Part 1502.14[e]). On July 10, 2001, DOE reported that TEP's Preferred Alternative is the Western Corridor (66 FR 35950). In light of TEP's preference and the Arizona Corporation Commission's (ACC) decision to site TEP's proposed line along the Western Corridor, DOE has decided to identify the Western Corridor as DOE's preferred alternative at this time. DOE welcomes comments on this designation. The cooperating agencies have not designated their preferred alternatives at this draft stage of the EIS review, but each will do so in the Final EIS. Each agency is authorized to select its own preferred alternative.

Western Corridor. The Western Corridor, DOE's and TEP's Preferred Alternative, is the western-most alternative connecting Sahuarita to the U.S.-Mexico border. The Western Corridor extends for an estimated 65.7 mi (105 km), including an estimated 9.3 mi (15.0 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Western Corridor within the Coronado National Forest is 29.5 mi (47.5 km). The estimated length of the Western Corridor on lands managed by BLM is 1.25 mi (2.01 km).

Central Corridor. The Central Corridor overlaps the northern portion of the Western Corridor from Sahuarita for approximately 18 mi (29 km), then continues south parallel to the EPNG pipeline ROW, connecting Sahuarita to the U.S.-Mexico border. The Central Corridor extends for an estimated 57.1 mi (91.9 km), including an estimated 43.2 mi (69.5 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Central Corridor within the Coronado National Forest is 15.1 mi (24.8 km). The estimated length of the Central Corridor on lands managed by BLM is 1.25 mi (2.01 km).

Crossover Corridor. The Crossover Corridor overlaps the northern portion of the Western Corridor from Sahuarita into the Coronado National Forest, then turns east at Peck Canyon to meet up with the Central Corridor, and continues south to the U.S.-Mexico border. The Crossover Corridor extends for an

estimated 65.2 mi (105 km), from the South Substation to the U.S.-Mexico border, including an estimated 17 mi (27.4 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Crossover Corridor within the Coronado National Forest is 29.3 mi (47.2 km). The estimated length of the Crossover Corridor on lands managed by BLM is 1.25 mi (2.01 km).

No Action Alternative. CEQ regulations require that an agency "include the alternative of no action" as one of the alternatives considered (40 CFR 1502.14[d]). In the context of this EIS, "no action" means that TEP's proposed transmission line is not built. For DOE and the cooperating agencies, "no action" would be achieved by any one of the Federal agencies declining to grant TEP its permission to build in its respective jurisdiction. Thus, in the case of DOE, "no action" means denying the Presidential Permit; for USFS, "no action" means denying the special use permit; for BLM, "no action" means denying access to BLM-managed Federal lands; and, for USIBWC, "no action" means denying permission to cross the international border. Each agency makes its own decision independently, so that it is possible that one or more agencies could grant permission for the proposal while others could deny permission. Thus, if any agency denies permission for the proposed transmission line, it would not be built.

1.2 PURPOSE AND NEED

Federal regulations implementing NEPA state:

"The statement [the EIS] shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action (40 CFR 1502.13)."

1.2.1 Applicant's Purpose and Need

TEP has provided the following purpose and need for the proposed project:

> TEP believes that the proposed project would have the potential to benefit both southern Arizona and northern Mexico with regard to the availability of electric power. TEP is responding to the need to improve transmission of electric power into the southern Arizona region and to assist Citizens (Communication Company) in meeting an ACC mandate that Citizens build a second transmission line to serve its customers in Santa Cruz County by December 31, 2003 (ACC Decision No. 62011).
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> TEP signed a contractual agreement with Citizens to assist in responding to the ACC mandate. Following this, TEP and Citizens applied jointly to the ACC for a Certificate of Environmental Compatibility (CEC) on March 1, 2001 (TEP 2001). On January 15, 2002, the ACC granted a CEC to TEP and Citizens to construct the proposed project in the Western Corridor, in accordance with listed mitigation provisions (ACC Decision No. 64356, ACC 2002). TEP and Citizens will, if necessary, return to the ACC to request an extension of the original December 2003 in-service deadline. If TEP and Citizens do not meet the deadline, and the ACC does not grant an extension, TEP and Citizens would be in violation of an ACC order, and there may be monetary penalties associated with violating that order.
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> While each circuit is thermally capable of transmitting 1,000 MW, the double circuit system has been designed and would be operated to transmit 500 MW total, for operational and reliability considerations (see Section 2.2.2). TEP reached agreement with Citizens to provide up to 100 MW of transmission capacity from Tucson to Nogales, Arizona. This would allow Citizens to improve reliability of electric service to its customers in Santa Cruz County. The proposed TEP 345-kV transmission line would provide a redundant path for the energy that is currently transmitted over the Citizens 115-kV transmission line from Tucson to Nogales, Arizona.